

FORM PTO-1390 (Modified)
(REV 11-2000)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES

A-7694

DESIGNATED/ELECTED OFFICE (DO/EO/US)

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.5)

CONCERNING A FILING UNDER 35 U.S.C. 371

10/019288

INTERNATIONAL APPLICATION NO.

INTERNATIONAL FILING DATE

PRIORITY DATE CLAIMED

PCT/EP00/05970

27 June 2000 (27.06.2000)

20 July 1999 (20.07.1999)

TITLE OF INVENTION

ASSEMBLY MACHINE FOR THE AUTOMATIC PRODUCTION OF STRUCTURAL ELEMENTS FOR FALSE CEILINGS

APPLICANT(S) FOR DO/EO/US

Sergio DALLAN

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☐ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☒ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired
 - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☐ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☐ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98
14. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter 2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☐ Certificate of Mailing by Express Mail
23. ☐ Other items or information

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.495)

INTERNATIONAL APPLICATION NO.

ATTORNEY'S DOCKET NUMBER

10/019288

PCT/EP00/05970

A-7694

24. The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

- ☐ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1040.00
- ☒ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$890.00
- ☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$740.00
- ☐ International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$710.00
- ☐ International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =**CALCULATIONS PTO USE ONLY**

\$890.00

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).

\$0.00

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE
Total claims	- 20 =	0	x \$18 00
Independent claims	- 3 =	0	x \$84 00

\$0.00

\$0.00

Multiple Dependent Claims (check if applicable) ☐

\$0.00

TOTAL OF ABOVE CALCULATIONS =

\$890.00

☒ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.

\$445.00

SUBTOTAL =

\$445.00

Processing fee of \$130.00 for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).

\$0.00

TOTAL NATIONAL FEE =

\$445.00

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable).

☒

\$40.00

TOTAL FEES ENCLOSED =

\$485.00

Amount to be:
refunded

\$

charged

\$

- a. ☒ A check in the amount of \$485.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 08-2455. A duplicate copy of this sheet is enclosed.
- d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO.

Christopher J. McDonald, Reg. 41,533
 HOFFMAN, WASSON & GITLER, PC
 2361 Jefferson Davis Highway
 Suite 522
 Arlington, VA 22202
 (703) 415-0100



20741

PATENT & TRADEMARK OFFICE

cc: 20741

SIGNATURE

Christopher J. McDonald

NAME

41,533

REGISTRATION NUMBER

January 3, 2002

DATE

10/019288

531 Rec'd PCT/PTC 02 JAN 2002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Sergio DALLAN

Serial No: Not yet awarded

Filed :

For : ASSEMBLY MACHINE FOR THE
AUTOMATIC PRODUCTION OF
STRUCTURAL ELEMENTS FOR
FALSE CEILINGS

Group Art Group:

Examiner:

#4/10

PRELIMINARY AMENDMENT

Commissioner of Patents and Trademarks
Washington, DC 20231

Sir:

Prior to the examination of the application, please
amend the application as follows:


In the Claims:

Please amend claims 1-5 as shown in the marked-up copy.
A clean copy of the claims is also enclosed.

REMARKS

The amendment makes changes to the claims to place same
in conformance with U.S. practice.

Respectfully submitted,


Christopher J. McDonald
Reg. No. 41,533
HOFFMAN, WASSON & GITLER, PC
2361 Jefferson Davis Highway
Suite 522
Arlington, VA 22202
(703) 415-0100

January 3, 2002

Attorney's Docket: A-7694.PAM/cat

10019288-010402

CLAIMS

1. A machine for the automatic production of inverted T-shaped structural elements for false ceilings, comprising a stepping feeder (12) for the T-shaped profile bars (38) cut to size, ^Ptwo series of lateral stations (22, 24, 26) interfering with the ends of said profile bars fed transversely by said stepping feeder (12), and ^Pa plurality of dies provided in the different stations to subject the ends of said profile bars to the required operation, the position of a least one of the series of stations being adjustable relative to the other, ^{such}characterised in that at least one station (24) is a station for applying an insert to the ends of said T-shaped profile bars, said inserts being formed by a press (36) acting on a strip (35) unwound from a reel (34), said press being provided upstream of said station (24).
2. A machine as claimed in claim 1, ^{wherein}characterised in that at least one of the series of stations is mounted on a shoulder (16) which, by means of a guide system (18) and manually operable recirculating ball slider (20), is adjustable relative to another shoulder (16) ^{supporting}which supports the other series of stations. ^{by a}~~by means of~~ guide system and manually operable recirculating ball slider
3. A machine as claimed in claim 1, characterised by comprising transverse stations (32) positioned at the most downstream pair of stations, said transverse stations being movable and positionable on the profile bar to be worked in order to effect operations on the central part of the vertical web of the profile bar.
4. A machine as claimed in claim 3, characterised in that said station is positionable in the length direction of the profile bar.
5. A machine as claimed in claim 1, characterised in that each die is operated by a hydraulic cylinder (28).

JPHS



10/019288

PCT/EP00/05970

- 1 -

531 Rec'd PCT/PIC 02 JAN 2002

ASSEMBLY MACHINE FOR THE AUTOMATIC PRODUCTION OF STRUCTURAL ELEMENTS FOR FALSE CEILINGS

This invention relates to an assembly machine for the automatic production of structural elements for false ceilings.

5 Structural elements for false ceilings are known, consisting of profile bars of inverted T-shape provided at their ends with hooks formed either directly from the central web of the T profile bar or from inserts which are formed separately for application to each profile during its production.

10 Said profile bars are connected together to form a lattice structure which by means of steel ties or cables is generally suspended at its top from the ceiling, their horizontal flanges lowerly supporting panels, staves and anything else required to form the false ceiling.

15 Such structural elements are currently formed using single-die presses, ie presses comprising a die of dimensions corresponding to the length of the profile bar to be formed, which is housed within the press and on which the various operations are carried out, possibly in a single step but more generally in several steps, and always within the actual die in which the bar is positioned. Said die is provided with a plurality of punches which are operated in sequence to effect on the bar such operations as perforating,
20 drawing, crimping, etc.

These known single-die presses have however certain drawbacks, namely:

- poor flexibility in that for each size (length) of profile bar the press requires a particular die which has to be changed each time the profile bar is to be
25 modified or following any change in dimensions or type of operation,

2040988.010403

- they require a large number of different dies depending on the type of hook, the length of the profile bars and the type of operation to be carried out,
- they immobilize capital,
- they occupy considerable storage space.

5 An object of the invention is to eliminate there drawbacks by providing an assembly machine in which profile bars of different dimensions and different hook types can be worked.

This object and further ones which result from the ensuing description are attained through an assembly machine as described in claim 1.

10 A preferred embodiment of the invention is described in detail hereinafter with reference to the accompanying drawings, on which:

Figure 1 is a plan view of the assembly machine of the invention, and

Figure 2 is a cross-section there through on the line II-II of figure 1.

As can be seen from the figures, the assembly machine of the
15 invention comprises a conveyor belt 2 provided downstream of a floating cutter 4 positioned at the exit of a forming machine 6.

At the downstream end of said conveyor belt there are provided two pushers 8 which move axially perpendicular to the axis of the belt 2.

Again at the downstream end of said belt there are provided two
20 conveyor straps 10 which are inclined slightly downwards and feed a stepping device indicated overall by 12.

The stepping device comprises a pair of parallel chains 14, 14' mounted respectively on two shoulders 16, 16', one 16' of which is movable relative to the other shoulder 16 via a guide system 18 and manually operable
25 recirculating ball sliders 20.

10019881.010402

Three pairs of dies 22, 24, 26 are mounted on the shoulders 16, 16' and are each operated by a corresponding hydraulic cylinder 28.

With the shoulder 16' there is associated a bellows screen 30 able to cover the distance between the operating face of the dies and the left hand
5 ends of the die bench following the movement of the shoulder 16'.

At the pair of dies 26, the machine of the invention also comprises movable transverse stations 32 positionable on the central part of the profile bar to be worked, and in particular on its vertical web.

A reel 34 about which steel strip 35 passes is provided to the side of
10 the intermediate pair of dies.

The machine of the invention operates in the following manner: after adjusting the distance between the shoulders 16, 16' to adapt them to the length of the profile bars 38 to be worked, these profile bars, leaving the forming machine 6 already of T shape and cut by the floating cutter 4, are
15 made to advance along the conveyor 2 until they encounter a limit switch 36, at which the pushers 8 transfer them onto the conveyor 10 such that they lie substantially on their side, ie with their web, vertical when installed, now lying horizontal because of the fact that the subsequent operations are performed mainly on this web.

The conveyor 10 transfers the profile bars stepwise to the device 12, which with its pair of chains 14, 14' grips each profile bar positioned transversely between the chains, raises it and advances it transversely between through a certain distance, to then lower it. The pitch of the stepping movement, ie the distance between two successive positions of each profile
25 bar, is equal to the distance between the dies corresponding to the two

2049288.010402

working stations, and the rate of advancement of the stepping device is equal to the rate at which the pairs of dies of the two stations are operated.

At the pair of dies 24, inserts formed by a press 36 acting on the strip 35 unwound from the reel 34 are applied to the ends of the profile bar.

- 5 Alternatively, the inserts are joined together to form a tape from which they are separated, to be applied to the ends of the bar portions.

In other cases in which it is not intended to apply such inserts, the pair of dies 24 punches the ends of the profile bars to form corresponding hooks.

- 10 When the profile bars arrive at the pairs of dies 26, the transverse stations 32 operate to form in the central region of the bar either holes for suspending it from the overlying ceiling, or apertures to be hooked by hooks provided on the other bars.

The positioning of these stations depends on the length of the bar to be worked and on the type of operation to be effected.

- 15 When these operations have been carried out the profile bars 38 are positioned on a conveyor belt 40 to be fed to discharge.

10019288 010402

C L A I M S

1. A machine for the automatic production of inverted T-shaped structural elements for false ceilings, comprising a stepping feeder (12) for the T-shaped profile bars (38) cut to size, two series of lateral stations (22, 24, 26) interfering with the ends of said profile bars fed transversely by said stepping feeder (12), and a plurality of dies provided in the different stations to subject the ends of said profile bars to the required operation, the position of a least one of the series of stations being adjustable relative to the other, characterised in that at least one station (24) is a station for applying an insert to the ends of said T-shaped profile bars, said inserts being formed by a press (36) acting on a strip (35) unwound from a reel (34), said press being provided upstream of said station (24).
2. A machine as claimed in claim 1, characterised in that at least one of the series of stations is mounted on a shoulder (16') which, by means of a guide system (18) and manually operable recirculating ball slider (20), is adjustable relative to another shoulder (16) which supports the other series of stations.
3. A machine as claimed in claim 1, characterised by comprising transverse stations (32) positioned at the most downstream pair of stations, said transverse stations being movable and positionable on the profile bar to be worked in order to effect operations on the central part of the vertical web of the profile bar.
4. A machine as claimed in claim 3, characterised in that said station is positionable in the length direction of the profile bar.
5. A machine as claimed in claim 1, characterised in that each die is operated by a hydraulic cylinder (28).

FIG. 1

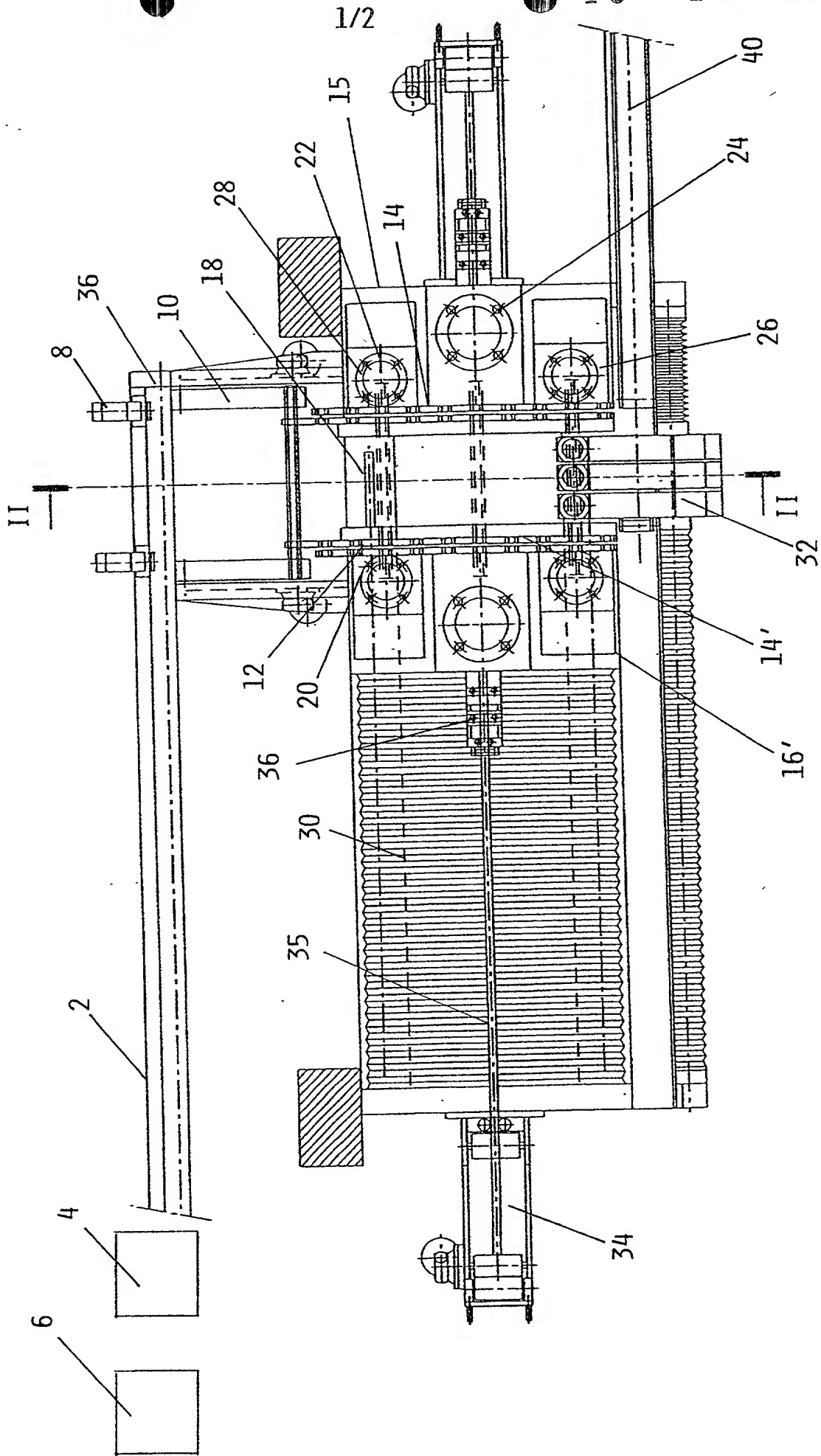
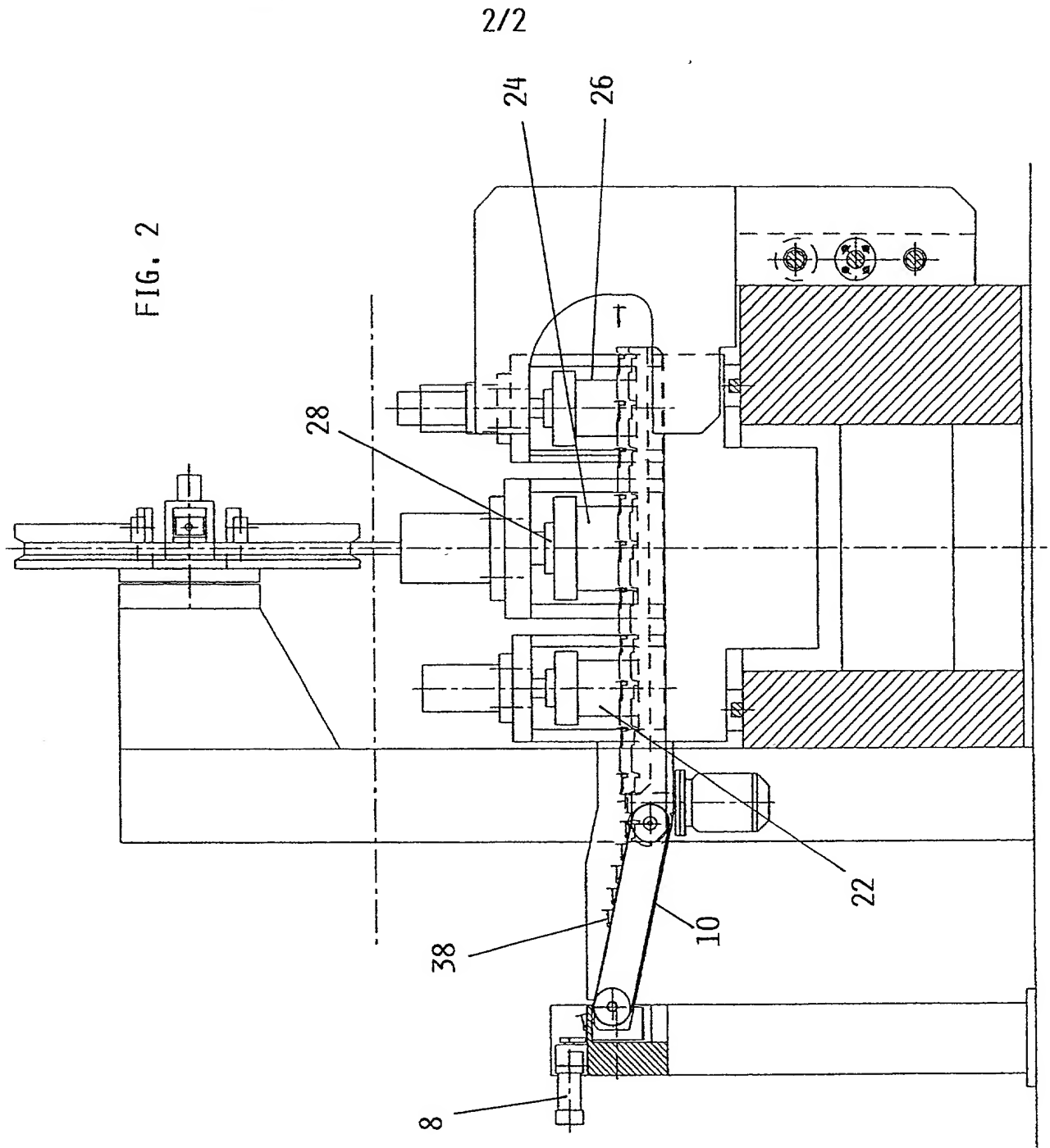


FIG. 2



COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT AND DESIGN APPLICATIONS

Insert Title: Assembly machine for the automatic production of structural elements
for false ceilings.
 Fill in Appropriate the specification of which is attached hereto. If not attached hereto,
 Information - the specification was filed on _____ as
 For Use Without United States Application Number _____;
 Specification and amended on _____ (if applicable) and/or
 Attached: the specification was filed on _____ as PCT
 International Application Number _____; and was
 amended under PCT Article 19 on _____ (if applicable)

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

☐ Yes ☐ No

(Filing Date)

Page 1 of 2
(Rev. 01/22/01)

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary:

Christopher J. McDonald Reg. No. 41,533
 Martin P. Hoffman Reg. No. 22,261
 Mitchell B. Wasson Reg. No. 27,408
 Stewart L. Gitler Reg. No. 31,256

Send Correspondence to: Christopher J. McDonald, Esq.
HOFFMAN, WASSON & GITLER, PC
2361 Jefferson Davis Highway
Suite 522
Arlington, VA 22202

Direct Telephone Calls to: Christopher J. McDonald, Esq.
 Telephone No: (703) 415-0100

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

PLEASE NOTE:
 YOU MUST
 COMPLETE
 THE
 FOLLOWING:

Full Name of First
 or Sole Inventor:
 Insert Name of
 Inventor
 Insert Date This
 Document is Signed

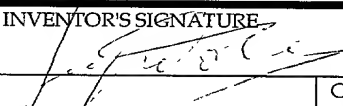
Insert Residence
 Insert Citizenship

Insert Post Office
 Address

Full Name of Second
 Inventor, if any:
 see above

Full Name of Third
 Inventor, if any:
 see above

Full Name of Fourth
 Inventor, if any:
 see above

GIVEN NAME/FAMILY NAME <u>DALLAN Sergio</u>		INVENTOR'S SIGNATURE 	DATE* <u>12.03.2001</u>
Residence (City, State & Country) <u>Via Per Salvatronda, 50 CASTELFRANCO V.TO</u> <u>ITALY</u>		CITIZENSHIP <u>ITX Italian</u>	
MAILING ADDRESS (Complete Street Address including City, State & Country) <u>Via Per Salvatronda, 50</u> <u>31033 - CASTELFRANCO VENETO - ITALY</u>			
GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP	
MAILING ADDRESS (Complete Street Address including City, State & Country)			
GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP	
MAILING ADDRESS (Complete Street Address including City, State & Country)			
GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP	
MAILING ADDRESS (Complete Street Address including City, State & Country)			

*DATE OF SIGNATURE